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2002 / 2003 Conservation Requirements for Groundfish Stocks in the Gulf of St. Lawrence

Report to the Minister of Fisheries and Oceans

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Table of Contents

Letter to the Minister 5

Introduction 6

Stock-by-Stock Recommendations 11

- Cod - 3Pn4RS 12
- Cod - 4TVn 16
- American plaice - 4T 20
- Witch flounder - 4RST 22
- Greenland halibut - 4RST 24
- White hake - 4T 26
- Atlantic halibut - 4RST 28
- Winter flounder - 4T 30
- Yellowtail flounder - 4T 32

Appendix

- FRCC Mandate and Membership A35

LETTER TO THE MINISTER

April 17, 2002

The Honourable Robert G. Thibault, P.C., M.P.
Minister of Fisheries and Oceans
200 Kent Street
Ottawa, ON K1A 0E6

Dear Minister,

The Fisheries Resource Conservation Council (FRCC) herewith presents to you its report on *2002/2003 Conservation Requirements for Groundfish Stocks in the Gulf of St. Lawrence.*

The Council's overall view of groundfish stocks in the Gulf is pessimistic. Since the 1993 cod moratoria in the Gulf, stock abundance has remained near historical lows. Predation by seals continues to be the dominant source of exploitation on groundfish.

After a decade of highly restrictive management measures and considerable sacrifices by a once large groundfish sector in the Gulf, the Council believes that the current state of the ecosystem affecting Gulf groundfish resources may have attained a new equilibrium and may not rebuild as expected in the medium or long term.

Last year, the FRCC was directed to develop rebuilding plans for the Gulf groundfish stocks. During 2001, the FRCC launched discussions characterized by the frustrations of industry participants. Since 1993, efforts directed at curtailing commercial fishing activities have clearly not had the expected response of stock rebuilding. Meanwhile, the inability to deal with ecosystem imbalances such as seal predation on stocks, continues to weigh heavily on evidence for the real will to change things in favour of the groundfish stocks.

Given this, and considering the scientific evidence presented, the FRCC believes that the rebuilding of groundfish stocks in the Gulf in the short to medium term is not possible. Consequently, the FRCC sees little opportunity to embark on further work now toward developing specific strategies for rebuilding Gulf groundfish stocks.

In 2001, the FRCC established, as an interim stage, a principle aimed at providing some stability in the fisheries while avoiding small changes, up or down, in the TAC from year to year. This meant that, unless significant changes were observed in the stock status, based on both scientific data and on fishers' views, no changes in TAC's would be recommended. This principle is maintained here. However, we are providing a clear signal in this report that the 2002/2003 fishing season must be considered the last year that the FRCC can tolerate this maintenance strategy while so few positive signals are evident in the stocks.

Sincerely,

Fred Woodman
Chairman

INTRODUCTION

This is the fourth FRCC report dedicated to groundfish stocks in the Gulf of St. Lawrence. It maintains the philosophy of previous reports, in line with FRCC's mandate and with its intent to make more explicit the ecosystem approach to conserving groundfish resources throughout Atlantic Canada.

In this opening section of the report, common conservation issues affecting all Gulf groundfish stocks are discussed. As in previous reports, ecosystem issues are raised. For each stock, a general perspective describes an overview of the fish population, fishery and trends. Information from fishing industry participants at the Gulf consultation sessions, and information from scientific analyses have been incorporated together in this report. Together, this information is weaved into the Council's rationale leading to specific recommendations to the Minister of Fisheries and Oceans.

The Council's overall view of groundfish stocks in the Gulf remains pessimistic. Since the 1993 cod moratoria in the northern and southern Gulf, spawning stock abundance for groundfish stocks have remained near historical lows and this year may even be declining in the key cod stocks. Predation by seals continues to be a major problem and an ongoing preoccupation for fishermen and the FRCC as the dominant source of exploitation on groundfish. Recruitment estimates continue to be far below observations of the productive period of the 1980s. After a decade of highly restrictive management measures (leading to fishing in the range of 10% that of the 1980s) and considerable sacrifices by a once large groundfish sector in the Gulf, the Council believes that the current state of the ecosystem affecting Gulf groundfish resources may have attained a new equilibrium that may not rebuild as expected in the medium or long term.

One year ago, the FRCC was directed to develop rebuilding plans for the Gulf groundfish stocks. During 2001, the FRCC launched discussions with the industry on rebuilding strategies during the March 2001 consultations with stakeholders, and again in October 2001. The meetings were characterized by the frustrations of industry participants. Efforts over the last decade directed at curtailing their commercial fishing activities have clearly not had the expected response. Meanwhile, the inability to deal with the ecosystem imbalance and the continued impact of natural forces such as seal predation on stocks, continue to weigh heavily on evidence for the real will to change things in favour of the groundfish fisheries. The fishing industry, in 2002 as in 2001, are clearly more concerned about their immediate future given the precarious state of the Gulf of St. Lawrence groundfish stocks than with discussing further ineffective efforts to reduce fishing while other sources of mortality are not similarly controlled.

Given this view of the fisheries, and from the scientific evidence presented this year, **the FRCC believes that the rebuilding of groundfish stocks in the Gulf in the short to medium term is not possible**. Moreover, unless concerted action is taken against seals now, then the Council is concerned that the long-term sustainable view of the groundfish resources in the Gulf of St. Lawrence is in serious jeopardy. Consequently, the FRCC sees little opportunity to embark on further work now toward developing specific strategies for rebuilding Gulf groundfish stocks. Moreover, while the Department continues to develop its initiatives of Objectives-based Fisheries Management (OBFM), and the Atlantic Fisheries Policy Review (AFPR), it may be prudent for the FRCC to wait until these strategic exercises are well-defined before challenging industry and itself to develop rebuilding plans where they cannot be feasibly entertained.

In 2001, the FRCC established, as an interim stage, a principle aimed at providing some stability in the fisheries while avoiding small changes, up or down, in the TAC from year to year. This meant that, **unless significant changes were observed in the stock status, based on both scientific data and on fishers' views, no changes in TACs would be recommended.** In the current year, this principle is maintained. However, there is a clear signal in this report that the 2002/2003 fishing season must be considered the last year that the FRCC can tolerate this maintenance strategy while so few positive signals are evident in the stocks.

Finally, **the FRCC recommends that until such time as the groundfish stocks show consistent growth and recovery, immediate action be taken wherever and whenever possible by applying the principles of the Council's 1997 Groundfish Conservation Framework for Atlantic Canada (FRCC.97.R.3) in the form of:**

- **i) protection of small fish,**
- **ii) encouraged use of efficient, nonwasteful gears,**
- **iii) increased dockside and at-sea observer coverage,**
- **iv) compulsory logbooks for all fisheries,**

v) **minimum by-catch, discards, and misreporting, and**

vi) **protection of spawning areas.**

The following section outlines specific applications of these principles for the Gulf groundfish fisheries.

General Conservation Measures

The FRCC reaffirms that recommendations made in past reports still apply unless otherwise noted. As such, the Council needs not restate every recommendation made in its past reports.

The Council's 1997 Groundfish Conservation Framework for Atlantic Canada (FRCC.97.R.3) provides the blueprint for its specific recommendations. These basic principles have led the Council to adopt the following conservation measures that apply to all Gulf groundfish stocks:

1) Spawning protection

The Council considers that fishing on spawning concentrations disrupts spawning activity and reduces the viability of the eggs. However, the Council also recognizes that a complete elimination of all fishing on spawning concentrations could be very disruptive to fisheries and fishermen (e.g. shrimp and other shellfish fisheries or fisheries such as Greenland halibut that can be conducted with a minimum by-catch of cod). Thus, while the Council is reluctant to recommend a complete cessation of all fishing to protect spawning concentrations of cod, it still is concerned that current limitations on catches during spawning times and locations are insufficient limits to fishing to protect the spawning concentrations.

In the past, the Council has recommended a two-stage process that calls for Science to identify the key spawning areas, as a first step, and, protection to be defined accordingly as a second step. However, given this approach, the Council is frustrated that neither the Department nor the industry have been able to implement sufficient and significant spawning closures, despite repeated recommendations from the Council over a number of reports. **Given the gravity of the continuing recruitment problems, the Council feels that it therefore has no choice but to recommend an immediate and complete cessation of all groundfish fishing on spawning concentrations throughout the Gulf of St. Lawrence during the period from April 1 to June 15.**

The Council also recommends that for areas where spawning activity occurs but may not be concentrated, the Department take immediate action to further reduce catches of cod that are permitted during the April 1 to June 15 period.

2) Mesh Size Regulations

Directed fisheries in the Gulf for flatfishes, including 4RST witch flounder, 4T yellowtail founder, 4T American plaice, and 4T winter flounder ("blackbacks") have been known to incur significant by-catches of cod. **As a general conservation measure, the FRCC recommends that the use of minimum square mesh to reduce cod by-catch as follows: (i) 155mm square minimum in the directed witch, and American plaice fisheries; (ii) 145mm square minimum in the directed winter flounder fishery.**

3) Dumping, Discards, and Misreporting

During Council's consultations this year, fishermen again raised concerns about groundfish discards ("highgrading") and the level of unreported catches in "black market" fisheries in the Gulf. **As in 2001, the FRCC recommends again this year that DFO Fisheries Management continue to develop appropriate monitoring mechanisms to determine and control the extent of dumping, discarding and misreporting including:**

- **100% dockside monitoring,**
- **at-sea observer coverage,**
- **at-sea boardings, and,**
- **where dumping, discarding and misreporting persists, the fishery should be closed for the particular gear sector and area in question.**

Recommendations Dealing with the Ecosystem

1) Seals

As in the past, the large seal population continues to be the major concern raised in every consultation held by the Council in 2002. The FRCC, along with the fishing industry, is convinced that predation by seals may be preventing the recovery of the two major cod stocks in the northern and southern Gulf.

For the first time since 1999, the Stock Status Report (SSR) on 4TVn cod provided a range of estimates attributed to the unprecedented numbers of harp seals and resident grey seals in the southern Gulf. For this year, based on a study of comparative diet analysis, scientists estimate that the annual consumption of cod by seals on this stock could range from 19,000t to 39,000t – a range of values that exceeds the 6,000t commercial fishing limit by over 3 to 6 times, and it more than doubles the earlier combined estimates of 7,000t to 15,000t suggested in the 1999 SSR.

The major source of Gulf seal predation is due to the presence of the resident stock of grey seals. Harp seals are more numerous, but they do not stay in the Gulf of St. Lawrence and therefore groundfish mortality from these predators represents a smaller portion of the total. The resident grey seals represent the principle source of groundfish mortality by seals within the waters of the Gulf. It is significant to note that the grey seal population has been free to grow unchecked since there are no authorized quotas on grey seals in 4T.

From this evidence and the consistent feedback from fishermen, the FRCC is convinced that the groundfish stocks in the Gulf will not rebuild without actions on seals or without an otherwise dramatic environmental shift that would include natural destruction of the seal herds, e.g., from disease. Given recent estimates, the Council believes that the current low levels of fishing are not having a detrimental effect on the groundfish stocks, and conversely, that eliminating entirely all removals from fishing will not lead to a direct improvement in stock status. It is on these grounds that the FRCC is therefore unable to provide a feasible rebuilding plan for the foreseeable future in the Gulf until such time as the seals herds are reduced.

The FRCC recognizes that the effect of seals within marine ecosystems is complex, and that "quick fixes" are unlikely. Nevertheless, the ecosystem and precautionary approach to rebuilding groundfish stocks is inconsistent with unlimited, unhampered and unrestricted seal predation on highly vulnerable groundfish stocks. Thus, the FRCC firmly believes that reductions in seal populations are urgently required in areas where groundfish spawn and on juvenile groundfish nursery grounds where acute predation is lowering the likelihood that groundfish stocks can return to levels that would support Atlantic Canadian coastal communities.

The FRCC recommends that areas where groundfish in the Gulf of St. Lawrence are particularly vulnerable to predation be identified and considered for protection as "seal exclusion zones".

The FRCC also recommends that seal harvest management plans include recommendations for reductions in herd size to levels that will sustain a long-term seal industry and are compatible with groundfish rebuilding objectives.

2) Recreational fishing

For groundfish resources in a precarious state, the FRCC reiterates its stand on recreational fisheries in Atlantic Canada. This position, again based on the Council's 1997 Conservation Framework, is one that supports only those fisheries that are controllable to the greatest extent possible and return the maximum information to science and management. At this time, the FRCC, does not believe that information forthcoming from the 2001 pilot recreational fisheries in the northern Gulf as well as the more traditional southern Gulf recreational fishery will be of equivalent quality compared to that from the sentinel and commercial fisheries collected by professional fishermen who operate under a management regime of strict controls and monitoring. On these grounds the FRCC reiterates the following recommendation.

The FRCC does not support the operation of a recreational fishery throughout the Gulf of St. Lawrence groundfish fisheries (NAFO subdivisions 3Pn4RS and 4TVn) at the present time and recommends that no recreational fishery take place in 2002/2003.

Until such time as resources are applied to control this fishery and a more complete compliance of the mandatory reporting of logbooks is attained, then the recreational fisheries should not be allowed to continue.

3) Sentinel programs

The FRCC reaffirms its support for the objectives of the sentinel program throughout the Gulf of St. Lawrence and supports all efforts of this cooperative industry-science program to increase information gathering and stock research opportunities. In particular, the FRCC supports sentinel activities that lead directly to information that will assist scientists to enhance the reliability and confidence of stock abundance estimates. The following specific recommendation for the southern Gulf is the result of industry suggestions and Science collaboration and is repeated here for emphasis.

The FRCC recommends that DFO Science in collaboration with industry design, develop, and implement a mobile component to the sentinel

program to cover all areas of the southern Gulf following an appropriate statistical design for implementation in the earliest time possible.

The FRCC notes the importance of a strong Sentinel program in all regions in the Atlantic groundfish fishery. The Council also encourages more consistency among program activities, reporting mechanisms, and sentinel protocols in order to ensure ease of understanding and coordination of the results across regions.

4) Capacity Reduction

The FRCC is still very much concerned about the extent of fishing capacity and the potential for exerting heavy pressure on Gulf groundfish stocks. The Council notes the efforts made by Fisheries Management to attempt to control the large numbers of operators by distributing the allocations in space and time over the fishing season. However, the large numbers of participants still carries with it the potential for quota overruns and cheating in the fishery.

As long as the number of license holders remains large, the issue of capacity reduction needs to be addressed. The Council looks forward to the results of the Atlantic Fisheries Policy Review (AFPR) and the announcement of a clear policy statement that will direct managers and the industry toward a leaner, more efficient harvesting industry that will be compatible with the current level of the groundfish resources.

5) Oil and Gas Exploitation

While oil and gas were not a major concern of this year's consultation sessions, some fishermen did express concern over the question of oil and gas exploration in the Gulf of St. Lawrence. The Gulf of St. Lawrence is a semi-confined highly productive environment and the FRCC still believes that any activity that would have a negative impact on that productivity must be closely assessed and monitored. Thus, similar to the recommendations made last year in this topic,

The FRCC recommends that any oil and gas production activities in the Gulf of St. Lawrence, from exploration to production phase, including the decommissioning phase, be postponed until a full understanding, made through a transparent process, on the potential impact of those activities on the marine life is made.

During consultations, a few stakeholders raised concerns about the apparent activities of the oil and gas companies, and stressed the importance of a full evaluation of the resources which could be adversely affected.

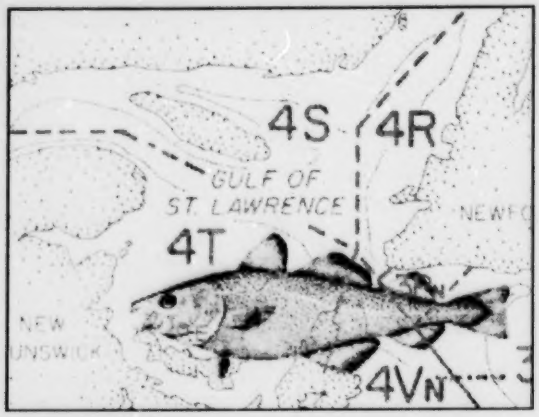
In line with its previous recommendation, the FRCC recommends that no decisions on oil and gas exploration and development activities should be taken before all information, from DFO and from CNOPB and CNSOPB, is made available publicly.

6) Ecosystem considerations in Gulf SSRs

The Stock Status Reports for the Gulf of St. Lawrence typically do not contain a section, as present in other regions, of a wider view of the stocks in question with regard to ecosystem effects. **The FRCC encourages this wider ecosystem view and recommends that future SSRs include a section on ecosystem effects.**

STOCK-BY-STOCK RECOMMENDATIONS

COD - 3PN4RS



PERSPECTIVE

The stock is located north of the Laurentian Channel, west of Newfoundland and on the lower north shore of the Gulf of St. Lawrence. The stock overwinters outside the Gulf, southwest of Newfoundland in deep water. In the spring, the fish move toward the Port au Port Peninsula on the west coast of Newfoundland where spawning begins. During the summer, the cod disperse toward inshore areas along the west coast of Newfoundland and the Middle and Lower North Shore of Quebec. The inshore migration is influenced by warmer waters and the presence of capelin, the primary prey of cod. This stock mixes with neighbouring stocks of Northern cod, Southern Gulf cod, and the southeastern Newfoundland cod stock in area 3Ps.

This cod stock was the most productive of the two Gulf cod stocks, with catches regularly above 50,000t until the late eighties, and some years above 100,000t.

Prior to 1994, this stock experienced the effects of poor fishing practices (harvesting of undersized fish, dumping, highgrading, misreporting, etc.). Overfishing combined with poor environmental conditions may explain the sharp decline observed in the early nineties, which led to the closure of the fishery in 1994. The fishery reopened in 1997 at low levels.

ANALYSIS

The 2002 Stock Status Report (SSR) for 3Pn4RS cod reports that abundance remains low, and the slow rebuilding observed since 1995 has stopped. All five abundance indices declined between 2000 and 2001. The stock evaluation also reports that the estimate of spawning stock biomass fell by 4% from 2001 to 2002. This decline was attributed to excessive and increasing fishing mortality despite restrictions to fishing at a constant TAC of 7,000t over the last two years. Fishing is reported to have been sustained by the substantial 1993 year-class alone.

In the SSR, scientists recommend that catches in 2002 must be limited to the lowest level possible including a recommended prohibition of the recreational fishery because it is felt that it cannot be appropriately accounted for nor controlled. Commercial catches at the current TAC of 7,000t in 2002-2003 are expected to result in at least a 5% decline in the spawning stock biomass.

As for the southern Gulf cod stock, natural mortality on this stock remains elevated. Sources of unaccounted "natural" mortalities include predation, poor environmental conditions, unreported catches, and changes in life history. A major source of "natural" mortality is the predation of cod by seals in the northern Gulf. While scientific studies on the estimates of seal consumption of cod in the northern Gulf are pending the results of fatty acids analysis, the potential annual consumption is significant (i.e., in the tens of thousands of tonnes annually) and far in excess of the catches taken in the commercial fisheries. The SSR attributes the decline in the spawning stock biomass between 2001 and 2002 solely to excessive fishing mortality. In the Council's view, this ignores the low level of commercial fishing, and the very high level of mortality inflicted by seals.

The FRCC conducted public consultations on this stock in Port Saunders and Port aux Basques, Newfoundland, as well as in Gaspé, Québec. Presentations from the Food, Fishermen and Allied Workers Union in both Newfoundland meetings criticized the analysis and results of the stock assessment. Industry presented evidence of good catch rates during the various openings of the fishing season in 2001. In their view, the status of the stock is stable and not declining as the stock assessment would indicate.

This is not the first time that the Council has heard either criticism of the scientific assessment by industry or differing accounts from fishermen and scientists regarding the state of this cod stock. Indeed, the Council has also expressed its concerns with regard to the SSR for 3Pn4RS cod, in that the year-over-year change in the formulation of the population analysis model causes problems in interpreting the results of this analysis and in comparing the results of the most recent assessment with that conducted last year.

Figures are in 000t

Year	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000/01	2001/02*
TAC	100	92.1	80.3	73.9	76.5	58	35	35	18	Moratorium			6	3	7.5	7	7
Catch	87.3	82	66.5	43.7	44.8	37.5	31.8	30.6	17.7	0.5	0.09	0.03	4.3	3.1	7.2	6.2	6.6

*Catch as of March 27/2002

1. Figures are from the Integrated Fisheries Management Plan Atlantic Groundfish

Fishermen raised several questions regarding the extent of mixing of the northern Gulf cod stock with that of the neighbouring 3Ps cod stock to the east including the offshore fishing areas. Their concern was that catches reported in the separate 3Ps fishery included a significant proportion of the 3Pn4RS cod stock.

Industry participants at consultations unanimously supported the recommendation in the SSR that the recreational fishery be prohibited since it was judged to be uncontrollable and removals underestimated.

After successive years of stating their concern about the severe impact of predation by seals on this cod stock, fishermen continue to be frustrated and are resigned to the negative impact of seals on stock rebuilding. They also pointed out that a lack of capelin, especially in northern areas deprived cod of its primary food source.

The Council acknowledges the frustration expressed by the fishing industry with respect to the large predation by seals on the Gulf cod stocks. Seal consumption estimates of cod dwarf by many times the catches of the commercial fishery. Indeed, predation by seals seems to be displacing catches by commercial fishermen. The Council is of the view that seal predation is a much more important factor than the current low level of fishing mortality in preventing the rebuilding of these cod stocks.

Sources

DFO Science

SSR A4 - 1 (2002) Northern Gulf of St. Lawrence Cod (3Pn, 4Rs) in 2001.

FRCC Consultations

The FRCC held consultations on this stock in 2002 in:

Port Saunders, NF (March 18)
Port aux Basques, NF (March 19)
Gaspé, QC (March 20)
Moncton, NB (March 21)
Port Hawkesbury, NS (March 22)

Written Briefs

Lark/York Harbour Fishermen's Committee - Allan & Paul Sheppard (2002-010-00056)

Fish, Food and Allied Workers - Earle McCurdy (2002-010-00045)

Council's View of Stock Status

Overall indicator:	Overall stock status remains stable with a slightly more pessimistic view of the resource than in 2001;
	Compared to average
Overall biomass:	Decline between 2000 and 2001; relatively stable since 1998
Recruitment:	1993 yc maintaining the fishery; no major signs of recruitment recovery
Growth and condition:	Biological characteristics have improved
Age Structure:	Increased proportion of older fish; population of juveniles declining due to series of poor recruitment
Distribution:	Spreadout in the fishing area; fish stayed later in the Gulf in 2001; mixing confounds distribution in the overwintering area
Recent exploitation rate:	Current exploitation is likely to be high

Fishermen made it clear that fishing in areas where spawning occurs was not acceptable to them and they suggested that fisheries closures be considered during this time. At the same time, it was noted that this suggestion would likely have an impact on other fisheries and that such impact should be taken into account.

The fishermen supported the continuation and participation of the sentinel program in the inshore fishery as a means of continuing longitudinal stock database information as well as maintaining industry contact with the resource.

Finally, the industry felt that the FRCC has not been effective at delivering their feedback to the Minister of Fisheries and Oceans. While they agreed the FRCC had supported industry positions, they were frustrated that the relevant Council recommendations had not been acted upon.

Considering the Stock Status Report, and the views of the industry, the FRCC concludes that no significant change in the status of the stock has occurred as yet. Consistent with the FRCC position taken last year that no change in the TAC for this stock be advised unless significant changes occurred in the stock status, as viewed by both Science and industry, the FRCC sees no strong evidence to change the current policy on the stock. At the same time, the Council stresses its position that should significant decline be observed in this stock then immediate action must be taken to arrest a worsening stock status.

The FRCC recommends that Total Removals of 3Pn4RS cod be set at 7,000t in 2002/2003; if after 2002 the Council concludes that stock abundance shows significant decline, then the Total Removals for a fishery must be significantly reduced.

In making this recommendation, the FRCC is listening very carefully to the feedback from industry. In doing so, the Council notes that the fishery has changed radically since the 1993 moratorium. For its part, industry has taken major steps in implementing conservation measures and has maintained a minimal exploitation level on the stock. This recommendation should be interpreted as sending a strong signal that this year is a critical year for the future of the fishery in its current state. If the stock status does not show some signs of maintaining its current position, then total removals must be significantly reduced.

The Council notes that this year, the recommendation for a TAC is replaced by "Total Removals". In doing so, the Council recognizes that all sources of fishing mortality must be taken into account in order to determine a complete view of the exploitation on the stock. The recommendation below is a logical consequence of this view.

The FRCC does not support the operation of the pilot recreational fishery for 3Pn4RS at the present time and recommends that no recreational fishery take place in 3Pn4RS in 2002/2003.

By this recommendation, the FRCC reiterates its stand on recreational fisheries in Atlantic Canada. This position, based on the Council's conservation framework, is one that supports only those fisheries that are controllable to the greatest extent possible and return the maximum information to science and management. At this time, the FRCC does not believe that information forthcoming from this fishery will be of equivalent quality compared to that from the sentinel and commercial fisheries collected by professional fishermen who operate under a management regime of strict controls and monitoring.

In the Introduction to this report, the Council has provided advice on seasonal closures to restrict fishing on spawning fish.

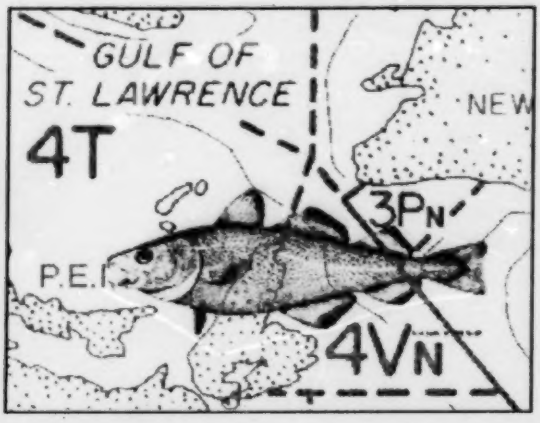
The Council recommends that specifically for 3Pn4RS, no groundfish fishing should take place in the area off Bay St. George from April 1-June 15.

The Council continues to be concerned about the treatment of the mixing of this stock with the 3Ps stock and reiterates it recommendation in this regard.

The FRCC recommends that the winter fishery closure (November 15 to April 15) on Burgeo Bank (3Psd) be continued and potentially expanded into 3Psa.

The FRCC recommends that as an immediate priority, DFO Science in the Québec and Newfoundland regions communicate to resolve the handling of 3Pn4RS cod stock mixing in 3Ps with the 3Ps cod stock for the purposes of including removals in the respective analytical assessments of these stocks.

COD - 4TVN



PERSPECTIVE

Cod in the southern Gulf of St. Lawrence have been exploited for over three centuries. After averaging 30,000t early in the last century, landings rose to peak at more than 100,000t in 1958. Landings remained in the 60,000t range after the mid-1960's. TACs were first imposed in 1974 and these became restrictive as the stock declined in the early 1970's. The stock recovered during the 1980s and catches returned to the 60,000t level after which the fishery declined rapidly in the early 1990's. In September 1993, a moratorium to commercial fishing was announced. The fishery was reopened for limited commercial fishing in 1999.

Landings prior to 1950 were primarily hook and line, with mobile gears and gillnets being introduced after a ban on otter trawling was lifted. After 1950, this fishery has supported a substantial harvesting and processing industry in communities in the southern Gulf and the Cabot Strait area where the stock overwinters.

Southern Gulf cod are migratory. The stock overwinters outside the Gulf in 4Vn and northern 4Vs along the edge of the Laurentian Channel. Fish migrate into the shallower waters of the Gulf after the breakup of winter ice. Spawning occurs throughout the Gulf from April through July. During the summer cod are distributed widely. The fall migration begins in October and cod become more concentrated off western Cape Breton in November as they move into 4Vn to overwinter. In recent years the migration out of the Gulf appears to be taking place earlier than usual with peak fishing off Cape Breton in October.

While this stock has supported a substantial harvesting and processing industry in the past, it is considered to be a stock with low productivity compared to cod stocks outside of the Gulf of St. Lawrence. Accordingly, it should be managed cautiously as high growth rates cannot be expected.

ANALYSIS

The 2002 DFO Stock Status Report for this stock indicates that stock abundance is low and that the spawning stock biomass has remained stable at a low level in recent years. As noted in previous reports on this stock, recruitment of 3 year-old cod produced in the late 1980s and early 1990s are significantly below the long-term average of about 100 million fish. The first estimate of the 1999 year class (age 3 in 2002) is estimated to be the poorest on record at 18 million fish. The 1998 year class (age 4 in 2002) is estimated as the third poorest on record (42 million fish).

The consequences of the extended period of poor recruitment means that rebuilding of the spawning stock biomass over the next 2-3 years is unlikely even with no fishery. Thus, despite the fact that fishing mortality on this stock has been low since the moratorium, for the second year in row, it is expected that even with no fishing in 2002, the spawning stock will again decline.

As for the northern Gulf cod stock, natural mortality on this stock remains high. Sources of unaccounted "natural" mortality include predation, poor environmental conditions, unreported catches, and changes in life history. A major source of "natural" mortality is due to the unprecedented numbers of harp seals and resident grey seals in the southern Gulf. This year, a study based on comparative diet analysis was presented during the assessment. From that study, scientists estimate that the annual consumption of cod by seals on this stock could range from 19,000t to 39,000t – a range of values that exceeds the 6,000t fishing limit by over 3 to 6 times and it more than doubles the earlier combined estimates of 7,000t to 15,000t suggested in the 1999 SSR. Commercial fishery catches are therefore small by comparison and within the uncertainties of these estimates.

The Council notes again this year that assessments of this stock track closely and consistently from one year to the next, and that the results of this year's assessment are close to those predicted by the 2001 assess-

Figures are in 000t

Year	1986	1988	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000/01	2001/02*
TAC	67	60	45.2	54	54	53	48	43		Moratorium			2	3	6	6	6
Catch	64	69.7	64.6	47.9	42.7	40.2	31.5	28.3	4.01	0.9	0.3	0.4	1.5	2.5	6.2	5.6	5.6

*Catch as of March 27/2002

1. Figures are from the Integrated Fisheries Management Plan Atlantic Groundfish

ment. Moreover, the Council acknowledges the expected year-over-year decline in spawning stock biomass, and further notes the projection that spawning stock biomass will decline even without fishing in the current year. At recent industry consultations, the Council heard from industry participants that in their opinion nothing that has been done in recent years – including increasingly restrictive management measures - has helped the stock recover. It was industry's unanimous opinion that unless something could be

Sources

DFO Science

SSR A3-01 (2002) Cod in the southern Gulf of St. Lawrence.

FRCC Consultations

The FRCC held consultations on this stock in 2002 in:

Port Saunders, NF (March 18)
Port aux Basques, NF (March 19)
Gaspé, QC (March 20)
Moncton, NB (March 21)
Port Hawkesbury, NS (March 22)

Written Briefs

Alliance des pêcheurs professionnels du Québec - Clovis Poirier (2002-010-00042)

PEI Tour Boat Operators – Norman Peters (2002-010-00035)

Pierrot Haché (2002-010-00055)

North of Smokey Fishermen's Association – Joe Buchanan (2002-010-00054)

N.S. Federation of Gulf NS Ground Fishermen (Fixed/Mobile<45ft Competitive) – Osborne Burke (2002-010-00057)

PEI Groundfish Association - Frank Hennessey (2002-010-00053)

Council's View of Stock Status

Overall indicator:	Stable for the last few years during a period of poor growth and high natural mortality; no significant change; stock status may worsen over 2002
	Compared to average
Biomass:	Stable since 1998; likely to experience a decline in 2002 even without a fishery
Recruitment:	At low levels since late 1980s; 1999 poorest ever
Growth and condition:	Stable
Age Structure:	Increased proportion of older fish; population of juveniles declining due to series of poor recruitment
Distribution:	Geographic range for the stock has contracted to the smallest area in the 31 year time series; larger catches concentrated close to shore and in shallower waters characteristic of period of low abundance
Recent exploitation rate:	Stable at 9% since 1999

done about seal predation on cod then stock rebuilding would not be possible.

The Council acknowledges the frustration expressed by the fishing industry with respect to the large predation by seals on the Gulf cod stocks. Seal consumption estimates of cod dwarf by many times the catches of the commercial fishery. Indeed, predation by seals seems to be displacing catches by commercial fishermen. The Council is of the view that seal predation is a much more important factor than the current low level of fishing mortality in preventing the rebuilding of these cod stocks.

Feedback from commercial fishermen was unanimous that the recreational fishery in 4T is not controllable, and that estimates of catches are therefore underestimated. While there was some support among industry representatives for a continuation of the "tour boat" fishery, the majority view among consultation participants supported a complete cessation of the recreational fishery.

As in past years, industry participants at the FRCC consultations, and in written briefs, expressed frustration over the reliability of the *CCGS Alfred Needler* survey. Their view was that there was probable cause for differences in the research vessel survey compared to fishermen's observations on the water. Reasons cited included changes in fish distribution and timing of migration, locations of research vessel tows, and perceived exclusion of some sets. Industry suggested that the otter trawl component of the current sentinel program could be re-designed to conduct an annual survey using commercial fishing vessels similar to the surveys conducted in the northern Gulf.

Fishermen pointed out the important place of cod in the historical groundfish fishery of the Gulf. At the same time they noted that in recent years many minor - relative to cod - groundfish stocks had become directed fisheries. They expressed concern that these fisheries might take an appreciable cod by-catch and would be contrary to conservation measures on the stock.

Considering the Stock Status Report, and the views of the industry, the FRCC concludes that no significant change in the status of the stock has occurred as yet. In accordance with the FRCC position taken last year that no change in the TAC for this stock be advised unless significant changes occurred in the stock status, as viewed by both Science and industry the FRCC sees no strong evidence to change the current policy on the stock. At the same time, the Council stresses its position that should significant decline be observed in this stock then immediate action must be taken to arrest a worsening stock status.

The FRCC recommends that Total Removals of 4TVn cod be set at 6,000t in 2002/2003; if after 2002 the Council concludes that stock abundance shows significant decline, then the Total Removals for a fishery must be significantly reduced.

In making this recommendation, the FRCC is listening very carefully to the feedback from industry. In doing so, the Council notes that the fishery has changed radically since the 1993 moratorium. For its part, industry has taken major steps in implementing conservation measures and has maintained a minimal exploitation level on the stock. This recommendation should be interpreted as sending a strong signal that this year is a critical year for the future of the fishery in its current state. If the stock status does not show some signs of maintaining its current position, then total removals must be significantly reduced.

The Council notes that this year, the recommendation for a TAC is replaced by "Total Removals". In doing so, the Council recognizes that all sources of fishing mortality must be taken into account in order to determine a complete view of the exploitation on the stock. The recommendation below is a logical consequence of this view.

The FRCC does not support the operation of a recreational fishery for 4TVn at the present time and recommends that no recreational fishery take place in 4TVn in 2002/2003.

By this recommendation, the FRCC reiterates its stand on recreational fisheries in Atlantic Canada. This position, based on the Council's conservation framework, is one that supports only those fisheries that are controllable to the greatest extent possible and return the maximum information to science and management. At this time, the FRCC does not believe that information forthcoming from this fishery will be of equivalent quality compared to that from the sentinel and commercial fisheries collected by professional fishermen who operate under a management regime of strict controls and monitoring.

In the Introduction to this report, the Council has provided advice on seasonal closures to restrict fishing on spawning fish.

For the southern Gulf of St. Lawrence, the Council recommends a complete cessation of all groundfish fishing on known spawning concentrations throughout 4T during the period from April 1 to June 15.

The Council also recommends that for areas where spawning activity occurs but may not be concentrated, the Department take immediate action to further reduce catches of cod that are permitted during the April 1 to June 15 period.

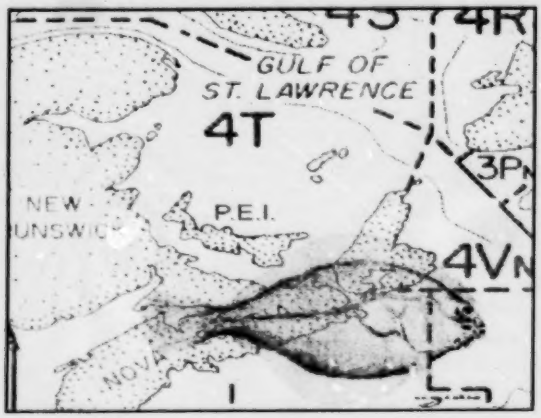
The FRCC also reiterates its support for the objectives of the sentinel program for this stock and supports all efforts of this program to increase information gathering and stock research opportunities.

The FRCC recommends that DFO Science in collaboration with industry design, develop, and implement a mobile gear component to the sentinel program to cover all areas of the southern Gulf following an appropriate statistical design for implementation in the earliest time possible.

The FRCC notes again that in 1999 DFO and the industry reached an accommodation to curtail the traditional winter fishery for cod and other species while they are congregated and possibly mixed in the Cabot Strait over-wintering area. The Council notes recent scientific studies that attempt to define the extent of mixing in this overwintering area which are currently under review and continues to believe that the decision by the industry to not fish in this area remains warranted while the 4Vn cod stock remains under moratorium. The FRCC therefore repeats its recommendation from past years as follows.

The FRCC recommends that fishing on 4TVn cod during its over-wintering in 4Vn (November to April) should only take place to the extent that there is high confidence that catch for 4Vn cod be minimal.

AMERICAN PLAICE - 4T



PERSPECTIVE

In the southern Gulf of St. Lawrence (NAFO subdivision 4T), American plaice was once the most abundant groundfish after cod. Females of the species are distinguished by a faster growth and reach larger sizes than males. Female American plaice reach sexual maturity between 7 and 15 years of age while males reach maturity between 5 and 7 years of age. Spawning occurs in late spring and early summer. Results based on research surveys indicate that the stock is at its lowest historical level. The survey trawlable biomass, which was estimated at 300,000t in the late 1970's, decreased to approximately 30,000t in 1999. Age classes between 4 and 7 years are stable at a low level. Recent RV survey catches were more abundant in the eastern part of 4T. Recent commercial catches show a pattern of a shift in distribution of the stock in recent years consistent with the survey.

The 4T American plaice fishery has been managed by quota since 1977, with landings ranging between 5,000t and 10,000t until 1992. From 1993 to 1999, lower catches in the range of 1,300t to 2,400t did not allow for a recovery of the stock, according to the scientific assessment.

ANALYSIS

The 2002 DFO Stock Status Report indicates that the plaice in the whole of 4T remain at a relatively low level, mainly due to a decline that has occurred in 4T west. RV survey data indicates that there is no sign of improved recruitment. The SSR indicates that without improved recruitment and at recent catch levels, no improvement in the status of the stock can be anticipated in the short to medium term.

Landings of American plaice declined to approximately 1200t in 2001, the second lowest level since 1965. The TAC was not caught, mainly due to poor market conditions and lack of adequate cod by-catch provisions, according to the fishing industry.

Some industry stakeholders argued that in the past American plaice was a by-catch fishery for the directed cod fishery. Recent management measures, especially increased mesh size, is perceived to have contributed to a lack of small fish present in the catch. However, others have indicated that large American plaice are no longer present in the fishery.

Fishermen also argue that catches were low in the west because of the lack of effort deployed in the area.

Until recent times, it was widely known that poor conservation practices, notably excessive catches of small fish and significant unaccounted discards, were characteristic of the fishery on this stock, and this likely contributed to stock declines.

The FRCC recommends that the 2002/2003 TAC for 4T American plaice be set at 1,000t, a reduction of 1,000t.

The Council observes again that stock rebuilding has not yet been reported in this stock and that indeed overall stock abundance continues to erode. The Council acknowledges that, on the basis of improved monitoring of catches and landings, further gear modifications to reduce catches of small plaice must be introduced for the coming season.

The FRCC recommends that DFO enforce the minimum 155mm square mesh in the directed fishery for 4T American plaice.

The FRCC also recommends that an expanded American plaice discard index in the winter flounder fishery be continued.

The Council is also concerned by the apparent lack of monitoring and enforcement that was reported by the industry during consultations.

The FRCC recommends that more efficient observer coverage through mandatory hail-out be continued.

Figures are in 000t

Year	1986	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000/01	2001/02*
TAC	10	10	10	10	10	10	10	10	5	5	5	2	2.5	1.5	2	2	2
Catch	10.5	7.7	8.4	6.8	4.8	4.4	5.04	4.9	1.6	2.4	2.3	1.4	1.7	1.1	1.5	1.4	1.03

*Catch as of March 27/2002

1. Figures are from the Integrated Fisheries Management Plan Atlantic Groundfish

Sources

DFO Science

SSR A3-26 (2002) American Plaice in the Southern Gulf of St. Lawrence (Div. 4T).

FRCC Consultations

The FRCC held consultations on this stock in 2002 in:

Port Saunders, NF (March 18)
Port aux Basques, NF (March 19)
Gaspé, QC (March 20)
Moncton, NB (March 21)
Port Hawkesbury, NS (March 22)

Written Briefs

North of Smokey Fishermen's Association – Joe Buchanan (2002-010-00054)

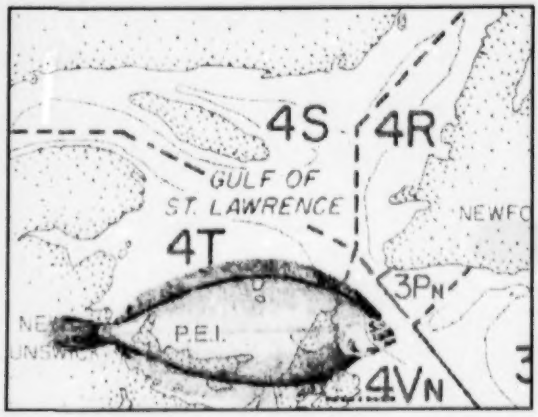
Federation of Gulf Nova Scotia Ground Fishermen (Fixed/Mobile <45ft competitive) – Osborne Burke (2002-010-00057)

PEI Groundfish Association - Frank Hennessey (2002-010-00053)

Council's View of Stock Status

Overall indicator:	Remain at low level
	Compared to average
Overall biomass:	RV survey indicates lowest level in the last three years since 1971
Growth and condition:	Unknown
Recruitment	Stable at low level
Age Structure:	Unknown
Distribution:	Concentrated in the eastern part of 4T
Recent exploitation rate:	Unknown

WITCH FLOUNDER - 4RST



PERSPECTIVE

Witch flounder are found in the deeper waters of the North Atlantic. In the Northwest Atlantic, witch range from the lower Labrador coast to cape Hatteras, North Carolina. They are slow growing and long-lived. Spawning for this species occurs from spring to late summer, depending on the region. Spawners aggregate in Channels in January and February, in the Gulf of St. Lawrence.

Witch flounder are known to move into deep water during winter months and they cease feeding during that period. Witch grow faster in the Gulf of Maine and Georges Bank, where feeding occurs year-around and water temperature is higher, in comparison with northern areas of their range.

With the introduction of the otter trawler, the commercial fishery for witch flounder was developed significantly in Newfoundland in the 1940's. The fishery in the Gulf of St. Lawrence began when the stocks in Fortune Bay declined and the vessels moved into Bay St. George (Newfoundland) in the 1950's.

Winter catches of witch gained in importance in the offshore, as by-catch in the cod and redfish directed fisheries. The fishery further expanded in the Gulf during the 1970's to the Esquiman Channel and the northern shore of Cape Breton Island.

Witch flounder in the northern Gulf of St. Lawrence (4RS) came under quota management in 1977, with a precautionary quota of 3500t. The first detailed assessment of 4RS was conducted in 1978 and continued until 1981. During the 1980's, landings in 4T increasingly dominated Gulf witch landings, however the management unit remained as 4RS. The TAC was increased to 5000t in 1979 in 4RS, to remove an old and slow growing component of the stock. This measure reduced the age composition of the stock and landings declined, and by 1982 the TAC was reduced to 3500t. Stock assessments resumed in 1991, and following the recommendations of the Fisheries Resource Conservation Council in 1994, the management unit was extended to 4RST in 1995.

ANALYSIS

The 2002 DFO Stock Status Report indicates that the research vessel survey biomass index for commercial sizes (30+ cm) increased from low values in 1993-1998 to moderate values in 1999 and 2000, but declined back to a low value in 2001. Within this survey, a strong year class, likely 1995 was also observed and should contribute to the fishery soon. Nevertheless, the stock structure for witch is a major source of uncertainty. In addition, the sentinel surveys of the northern Gulf (4S and 4R) indicate that biomass in this area changed little from 1995 to 2001.

According to the view of the industry the overall picture on biomass is positive. They experienced high catch rates during the fishery. As a conservation measure, they have reduced the fishing effort on spawning concentrations, that they feel has directly contributed to the rebuilding of the stock. They wish to underline that the quota was not reached due to excessive by-catch of cod during the spring and having no cod by-catch available in the fall resulted in an early closure of the fishery. Stock identification is a major concern for the industry, they feel that tagging must be carried out on this stock. The industry recommend status quo on the TAC.

The FRCC believes that the TAC should remain stable until such a time as a significant increase in this stock has occurred. The FRCC recognizes that the strong 1995 year class should soon contribute to the fishery. However, at this time, it would be premature to increase the TAC based only on this particular year class.

The FRCC recommends that the 2002/2003 TAC for 4RST witch flounder be maintained at 1000t.

In order to avoid by-catch of cod during the directed fishery for witch, the Council believes that a minimum mesh size of 155mm square be used.

Figures are in 000t

Year	1986	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000/01	2001/02*
TAC	3.5	3.5	–	3.5	3.5	3.5	3.5	3.5	3.5	1	1	1	1	0.8	0.8	1	1
Catch	0.7	0.8	0.3	0.16	1.20	0.7	0.5	0.4	0.5	0.1	0.3	0.5	0.6	0.89	0.82	0.87	0.8

*Catch as of March 27/2002

1. Figures are from the Integrated Fisheries Management Plan Atlantic Groundfish

The FRCC recommends that DFO enforce the minimum 155mm square mesh in the directed fishery for 4RST witch flounder.

Considering the high level of uncertainty on the structure of this stock, the Council believes that it is important to conduct some research on this particular issue.

The FRCC recommends that DFO Science undertake an investigation on the witch flounder stock structure.

Sources

DFO Science

SSR A3 - 20 (2002) Witch flounder (Divs. 4RST).

FRCC Consultations

The FRCC held consultations on this stock in 2002 in:

Port Saunders, NF (March 18)
Port aux Basques, NF (March 19)
Gaspé, QC (March 20)
Moncton, NB (March 21)
Port Hawkesbury, NS (March 22)

Written Briefs

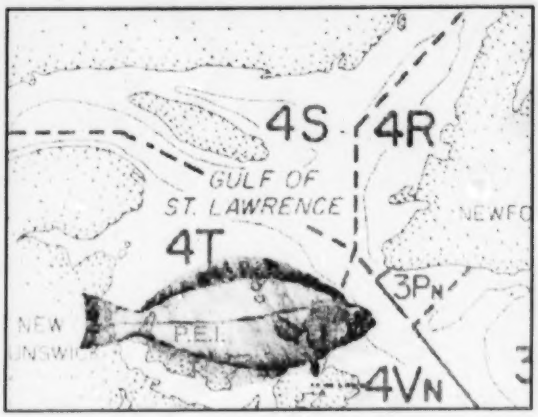
North of Smokey Fishermen's Association – Joe Buchanan (2002-010-00054)

Federation of Gulf Nova Scotia Ground Fishermen (Fixed/Mobile <45ft competitive) – Osborne Burke (2002-010-00057)

Council's View of Stock Status

Overall indicator:	Population still at low level, slightly improving in size and in distribution
	Compared to average
Overall biomass:	Slight improvement in the mid-term, but decrease in 2001
Growth and condition:	Unknown
Recruitment:	Strong year class observed (1995)
Age Structure:	Unknown
Distribution:	Decrease in all sectors, except Eastern 4T
Recent exploitation rate:	Low landings related to low TAC

GREENLAND HALIBUT - 4RST



PERSPECTIVE

In the Gulf of St. Lawrence, there are two main fishing areas for this stock: a western area, in the St. Lawrence estuary and the Anticosti Island area, which represents generally more than 80% of the catches, and an eastern area, in the Esquiman Channel.

The development of the fishery is recent. Long term average landings are in the range of 4000t. Very high catches, above 8000t, were experienced in the past and were followed by sharp declines. Male and female halibut have different growth rates, with females reaching maturity at a larger size.

ANALYSIS

This Greenland halibut fishery is mainly prosecuted with gillnets. Conservation measures implemented, by regulation and by industry initiatives (i.e. mesh size, reduction of fishing effort, sorting grids in the shrimp fishery) have led to a recovery of the stock.

In the 2002 DFO Stock Status Report, the Greenland halibut population in the Gulf of St. Lawrence continues to show some positive signs, particularly in recruitment. However, there is a decline over the last four years for fish larger than 44cm, the minimum legal size.

Since 1993, an increase in biomass has been observed, which has contributed to an extended distribution area. Nevertheless, from 2000 to 2001, there was a slight decrease in biomass due to a decline in the portion of the stock composed of fish greater than 44 cm. The stock is expanding mainly south of Anticosti Island and along the Laurentian Channel. There has been a decrease in yield (CPUE) since 1999. Stock condition indicators also deteriorated in 2000 and 2001, especially in the western Gulf.

The minimum trawlable biomass was higher in recent years due to three good recruitment years (1995, 1997 and 1999). In addition, data on maturity show that the size at which 50% of fish are mature fell between 1996 and 2001.

In 2000 and particularly in 2001, there was a significant decrease in the catch rates in the fishery for reasons that do not appear to be related to the abundance of the resource. Some fishermen noted the presence of high concentrations of snow crab, which prevents fishing on some grounds where large Greenland halibut used to be found.

In spite of the industry's advice to maintain the status quo TAC in 2002, the FRCC is concerned by the recent decrease in the biomass composed of fish larger than 44cm, combined with a slower growth rate, especially that of the 1997 year-class. Based on these previous elements, and the fact that the TAC was not taken in the last three years, the FRCC believes that the exploitation rate should be reduced for the coming season, even if some indicators are favorable for the longer term. A properly set TAC should allow sufficient mature biomass to survive the fishery in order to preserve the reproductive capacity of the stock.

The FRCC recommends a TAC of 3,500t for 4RST Greenland halibut for 2002/2003, a reduction of 1,000t.

During the 2002 consultations, the industry expressed concerns over the potential concentration of the fishery on the larger females, which could have a negative impact on the stock's long-term reproductive capacity. Fishers link this situation to the utilization of 6 inch mesh gillnets. In order to address this issue, they propose the use of a mix (5½ and 6 inch mesh) for the coming season. According to their views, this would test the hypothesis that a more balanced sex ratio will occur and thus would protect a part of the female biomass, while avoiding the capture of large successful spawners. In order to resolve this situation in the longer term they recommend a return to 5½ inch mesh.

The FRCC recommends that DFO Science in cooperation with industry, at the next RAP, model and compare the impact of 5½ and 6 inch mesh on the catch composition, especially with regard to the size of fish and the ratio of males and females in the

Figures are in 000t

Year	1986	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000/01	2001/02*
TAC	5	5	8.7	10.5	10.5	10.5	10.5	10.5	4	4	4	2	3	4	4.5	4.5	4.5
Catch	2.3	6.5	10.9	7.5	5	2.3	2	3.5	2.5	3.5	2.4	1.9	2.6	3.9	3.6	2.2	1.3

*Catch as of March 27/2002

1. Figures are from the Integrated Fisheries Management Plan Atlantic Groundfish

catch, and based on changes in sexual maturity at length and differential growth rates of males and females.

The FRCC recommends that the results of the ongoing otolith trace element studies be pursued and presented at a future RAP.

Sources

DFO Science

SSR A4 – 03 (2002) Gulf of St. Lawrence (4RST) Greenland Halibut in 2001.

FRCC Consultations

The FRCC held consultations on this stock in 2002 in:

Port Saunders, NF (March 18)
Port aux Basques, NF (March 19)
Gaspé, QC (March 20)
Moncton, NB (March 21)
Port Hawkesbury, NS (March 22)

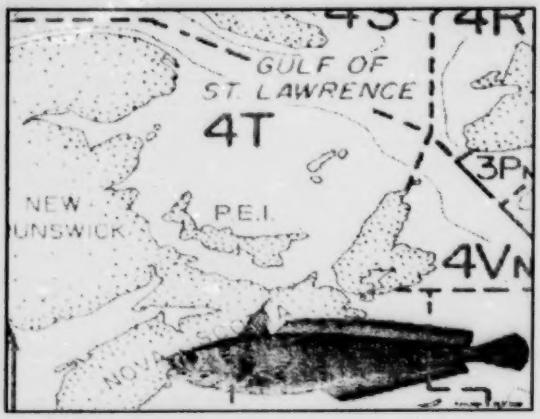
Written Briefs

No written briefs received.

Council's View of Stock Status

Overall indicator:	Stock still rebuilding
	Compared to average
Overall biomass:	Decrease from 2000 to 2001
Growth and condition:	Slower growth rate of the 97 year-class
Age Structure:	Reduction of larger fish
Distribution:	Expanding South of Anticosti Island
Recent exploitation rate:	Low as TAC not taken in the last three years

WHITE HAKE - 4T



PERSPECTIVE

The white hake fishery has been conducted in the southern Gulf of St. Lawrence since the early 1960's. Traditionally, this stock has been harvested with both mobile and fixed gear primarily in the inshore fishery. Although this fishery did not rate as the most important groundfish fishery, with the exception of several localized areas, it nevertheless played a vital role in the historical landings and revenues of the inshore fleet. Annual landings in this southern Gulf groundfish fishery have averaged 5675t from 1960 to 1994. Total reported landings for 2000 and 2001 averaged 125t.

Catch rates continued to decline in the early 1990's until the fishery closed in 1995. The overall range and distribution of this stock remains concentrated in eastern Northumberland Strait, western P.E.I., St. George's Bay and Cape Breton. There is increasing evidence of two different stock components: one occupying Northumberland Strait in shallow water and another along the Laurentian Channel in deeper water. Limited removals have continued since the moratorium for the purposes of sentinel surveys and by-catch for other fisheries. There is a fall migration of adults into 4Vn for the winter period.

ANALYSIS

The 2002 DFO Stock Status Report indicates that stock structure remains uncertain. Population abundance and biomass have increased moderately since 1996. Distribution remains concentrated in the eastern part of 4T. There was limited industry feedback on this stock, but there were opinions that the stock has improved in selected areas.

The FRCC considered an industry proposal in 2001 to establish a joint venture with DFO Science to develop an index fishery. However, since the commercial size component of the stock remains in a precarious state, the FRCC cannot support the TAC increase for the 2002/2003 fishing season the industry proposal would imply.

The FRCC recommends that there be no directed fishery for 4T white hake in 2002/2003.

The FRCC recommends that conservation measures previously implemented for this stock, especially the close monitoring of by-catch, be continued and enforced.

Tagging efforts, which are considered necessary to help determine stock structure and migration, have proven difficult or impossible in deep water areas. However, industry feels that shallow water tagging should be investigated as well as parasite analysis, which may help to differentiate stock structure and migration patterns.

The FRCC recommends that tagging studies be carried out on white hake to determine stock structure and migration dynamics in and out of the Gulf of St. Lawrence.

The fishing industry also raised concerns about the recreational fishery which, in their view, is not controllable. In addition industry believes reported recreational fishery landing information for this species is not accurate and should be verified. (Cod landings may be recorded as hake.)

The FRCC reiterates that when a stock is under moratorium, no recreational fishery should exist.

Figures are in 000t

Year	1986	1988	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000/01	2001/02*
TAC	12	12	9.4	5.5	5.5	5.5	5.5	5.5	3.6	2			Moratorium				
Catch	6.7	4.9	5.9	3.7	4.9	4.2	3.7	3.9	1.2	0.9	0.06	0.04	0.1	0.13	0.18	0.12	0.05

*Catch as of March 27/2002

1. Figures are from the Integrated Fisheries Management Plan Atlantic Groundfish

Sources

DFO Science

SSR A3 – 12 (2002) White Hake in the Southern Gulf of St. Lawrence.

FRCC Consultations

The FRCC held consultations on this stock in 2002 in:

Port Saunders, NF (March 18)
Port aux Basques, NF (March 19)
Gaspé, QC (March 20)
Moncton, NB (March 21)
Port Hawkesbury, NS (March 22)

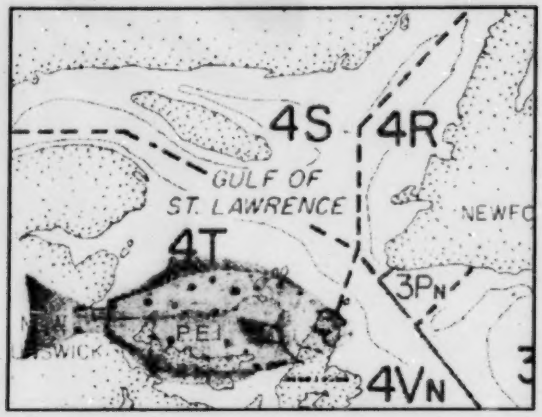
Written Briefs

Federation of Gulf Nova Scotia Ground Fishermen (Fixed/Mobile <45ft competitive) – Osborne Burke (2002-010-00057)

Council's View of Stock Status

Overall indicator:	Stock abundance is improving since 1996.
	Compared to average
Overall biomass:	Lower than the long term average, however biomass in dex is the highest since 1992.
Growth and condition:	No information
Recruitment	Stable or decreasing
Age Structure:	No information
Distribution:	Still concentrated in eastern 4T, western Cape Breton, St. George's Bay
Recent exploitation rate:	Low

ATLANTIC HALIBUT - 4RST



PERSPECTIVE

Atlantic halibut is widely distributed in the deep channels of the Gulf of St. Lawrence. It is thought that it overwinters outside the Gulf, in the 3Pn areas.

The fishery is generally prosecuted with long lines. Over the past 20 years, the average landings are in the range of 300-400t with peaks as high as 800t. Historical data indicate that catches may have been above 1000t.

ANALYSIS

As in previous years, most of the 2001 catch was taken with fixed gear, primarily longlines. For a second consecutive year, the TAC was not fully taken in 2001.

The implementation of a minimum legal size and the mandatory release of undersized halibut has translated into a significant decrease in the landings of small fish. The wide size range of fish caught in the fishery is a positive sign of stock health. However, questions about the actual size at maturity for females, might be much higher than the present minimum legal size of 81 cm, raise the issue of stock reproductive capacity under the current management regime.

Industry reported that large numbers of small halibut were observed in the fishery in some areas. Some stakeholders feel that the current minimum legal fish size is not uniformly applied by all regions or fleets.

The FRCC recommends that the release of fish smaller than 81 cm be enforced and all mortality associated with discarding be included in total mortality estimates.

The stock was not fully assessed in 2001. The update indicated that a wide array of sizes of halibut were caught in the 2001 fishery and prerecruits were also found in the catches. Size structure measured indicate that landings consist mainly of individuals measuring between 81 and 110 cm. Tagging results show that halibut do not migrate long distances.

The minimum legal size is an issue raised by scientists. Research indicates that sexual maturity for females is reached at sizes that are significantly larger than the minimum legal size imposed in the Gulf. It is therefore possible that the current regulation does not protect the stock's reproductive capacity.

Stock unit and possible mixing with stocks outside the Gulf remains an issue. Fishers feel that the ongoing tagging experiments will bring valuable information to identify biological links between various stock components.

The industry and the FRCC are concerned by the catches occurring in winter in the Cabot Strait (3Pn area) which are not subject to any control or regulation. The FRCC feels that such an open-ended, uncontrolled, fishery is not acceptable.

As an interim measure, the FRCC recommends that 3Pn catches be limited to 40t until the stock structure is defined from tagging data.

The fishing industry seems to agree with the stock status as described by DFO Science. The status quo catch level is recommended by industry.

The FRCC recommends that the TAC for 4RST Atlantic halibut be maintained at 350t for 2002/2003.

Figures are in 000t

Year	1996	1998	1997	1998	1999	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000/01	2001/02*
TAC	–	–	–	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.35	0.35	0.35
Catch	0.19	0.27	0.27	0.19	0.22	0.42	0.34	0.14	0.11	0.12	0.07	0.23	0.28	0.3	0.34	0.28	0.25

*Catch as of March 27/2002

1. Figures are from the Integrated Fisheries Management Plan Atlantic Groundfish

Sources

DFO Science

SSR A4-02 (2002) Atlantic Halibut of the Gulf of St. Lawrence (Divisions 4RST) - Update (2001).

FRCC Consultations

The FRCC held consultations on this stock in 2002 in:

Port Saunders, NF (March 18)
Port aux Basques, NF (March 19)
Gaspé, QC (March 20)
Moncton, NB (March 21)
Port Hawkesbury, NS (March 22)

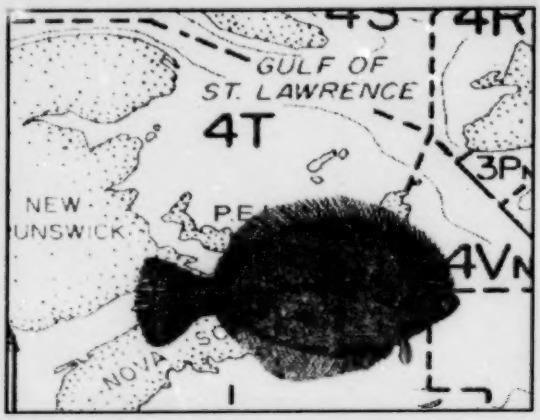
Written Briefs

Federation of Gulf Nova Scotia Ground Fishermen (Fixed/Mobile <45ft competitive) – Osborne Burke (2002-010-00057)

Council's View of Stock Status

Overall indicator:	Stock at low level *Compared to average*
Overall biomass:	Unknown but likely to be at low level
Growth and condition:	Not available
Age Structure:	No reliable indicator, wide size range present in the fishery
Distribution:	Not changed in recent years
Recent exploitation rate:	Stock has maintained some degree of stability at current harvesting rate although the TAC of 350t was not caught for the past three years

WINTER FLOUNDER - 4T



PERSPECTIVE

In the southern Gulf of St. Lawrence (4T), winter flounder are limited to the Magdalen Islands and to southern parts of 4T: Chaleur Bay, Shediac Valley, Northumberland Strait, and St. George's Bay. Growth rates vary widely between regions, with females reaching sexual maturity at about 25 cm and with males maturing at about 20 cm.

The historical landings in the 4T winter flounder fishery varied widely between a few tons and 4500t. Those large fluctuations may be partially due to misreporting or to landings of "unspecified" flatfishes. Lower landings could have also been affected by the use of larger mesh sizes, which have increased considerably since 1960. The catches were limited by a precautionary TAC of 1,000t since 1996. Landings declined after 1997, on the order of 600t annually.

Winter flounder are shallow water species, found primarily in depths less than 40 meters. They migrate seasonally from the coast and overwinter in estuaries. Otter trawls are the dominant gear type landing up to 75% of the catches in 2000 and 2001. The fixed gear fishery has evolved into a 'tangle net' fishery using modified nets set on the spring and fall spawning beds of herring to capture winter flounder.

ANALYSIS

Following the full assessment carried out on this stock in 2000, DFO Science provided an update in 2002. The Stock Status Report for 4T winter flounder confirms trends observed in the past years. The annual research survey in 2002 indicates that the stock has been at near average abundance for the past three years. The biomass index has ranged from 53,000 – 79,000t over this period. The size of winter flounder in the survey has declined, but appears to have leveled off in recent years. Winter flounder has a tendency to be smaller in size and weight since 1971. Research surveys may poorly reflect the abundance of 4T winter flounder. This species is distributed in shallow water at the inshore edge of the groundfish surveys.

In the annual telephone surveys in 2000 and 2001, the dominant view of the fishers was that the resource was at the same level of abundance as in the previous year of fishing. Since 1995, fishers have tended to view the abundance trend of this resource favourably.

Comments were made during the 2002 consultations. Industry suggested the maintenance of the 1,000t TAC. They demanded action on the predation by seals on winter flounder. They requested the continuation of the tagging program.

The FRCC recommends that the TAC for 4T winter flounder be maintained at 1,000t for 2002/2003.

The last winter flounder assessment indicated that the data used to evaluate local abundance, recruitment and stock identification should be improved considering that stock appears to be made up of several components. Some progress has been made through initiatives put in place in recent years (industry survey on the Magdalen Islands, logbooks in the southern Gulf and tagging studies) to help improve the data in order to determine whether local management measures would be applicable.

The FRCC recommends that a report be tabled on preliminary management implications of tagging work at the next Regional Advisory Process (RAP).

The FRCC recommends continuation of the conservation measures implemented in 2001/2002 including: increased mesh size to 145mm square; 100 % dockside monitoring; specific fishing areas be defined with no directed fishing outside these areas; and the enforcement of minimum size.

Figures are in 000t

Year	1986	1988	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000/01	2001/02*
TAC												1	1	1	1	1	1
Catch	1.2	2	1.8	1.4	2.1	2.1	2.5	1.9	1.2	0	0	0	1.08	0.84	0.81	0.57	0.5

*Catch as of March 27/2002

1. Figures are from the Integrated Fisheries Management Plan Atlantic Groundfish

Sources

DFO Science

SSR A3 - 22 (2002) Winter Flounder in the Southern Gulf of St. Lawrence (Div. 4T).

FRCC Consultations

The FRCC held consultations on this stock in 2002 in:

Port Saunders, NF (March 18)
Port aux Basques, NF (March 19)
Gaspé, QC (March 20)
Moncton, NB (March 21)
Port Hawkesbury, NS (March 22)

Written Briefs

North of Smokey Fishermen's Association – Joe Buchanan (2002-010-00054)

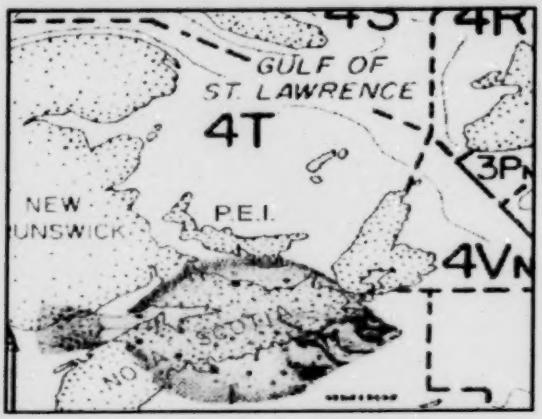
Federation of Gulf Nova Scotia Ground Fishermen (Fixed/Mobile <45ft competitive) – Osborne Burke (2002-010-00057)

PEI Groundfish Association - Frank Hennessey (2002-010-00053)

Council's View of Stock Status

Overall indicator:	Stock abundance lower than long term average
	Compared to average
Overall biomass:	Unknown
Growth and condition:	Size and weight at lower levels than historic average
Age Structure:	Unknown
Distribution:	Several local stocks, limited knowledge on stocks
Recent exploitation rate:	Fishing mortality below average

YELLOWTAIL FLOUNDER - 4T



PERSPECTIVE

Yellowtail flounder in the Gulf of St. Lawrence are primarily concentrated around the Magdalen Islands where they have supported a bait fishery for the local lobster fishery. Other than the localized fishery around the Magdalen Islands, yellowtail flounder is harvested as a by-catch in other fisheries. The Magdalen Island fishery is mainly carried out using mobile gear.

A one-time overseas market developed during 1997 resulted in over 800t being harvested. Quotas were established for this stock in 1998 for the first time at a level of 300t. Due to poor markets and an establishment of a quota, harvesting effort has been dramatically reduced since 1998. A localized bait fishery continues to be prosecuted.

Yellowtail is predominantly fished in May to October, with largest landings in May and June, with landings reported in areas 4Tf, 4Tg, 4Tj, 4Tl and 4Tn. Most of the landings came from 4Tf, 4Tg and 4Tl with the largest amount coming from 4Tf i.e. the area around the Magdalen Islands.

Throughout their range, they migrate seasonally into shallower waters in the spring and back to deeper waters in the winter. Spawning occurs on or near the bottom in spring or early summer.

ANALYSIS

This stock was assessed in 2002. The 2002 Stock Status Report indicates that:

- Catch rates for commercial and sentinel vessels show little change from 1997 to 2001.
- The mean numbers per tow for all of 4T in the DFO research vessel survey remained relatively stable from 1985 to 2001 and the mean numbers / tow in the area surrounding the Magdalen Islands increased from1985 to1993 and remained relatively stable since.
- Following the 800t catch of yellowtail in 1997, the modal (most common) length in the research vessel survey decreased to a very small length, but has been increasing since then to 2001. There continues to be a large proportion of small yellowtail in the surveys.
- Relative fishing mortalities at length for 1997 were much higher than for 1995-96 and 1998-2001.
- Harvest levels near 800t may cause the stock to decline, but the stock appears to be able to support harvest levels closer to 300t.

No comments were received on this stock during the 2002 Council consultations.

Considering the uncertain improvement in the number of fish less than 25cm and the fact that commercial-size fish decreased compared to the 1984-1999 average, it would be premature to increase the TAC from the current level.

The FRCC recommends that the quota of 300t be maintained for 4T yellowtail flounder in the Magdalen Islands area in 2002/2003.

The joint Industry-Science research program seems very promising and should be encouraged.

The FRCC recommends that the ongoing DFO-Industry project be maintained to continue to develop indices of abundance and recruitment in order to get more complete information for future assessment of this stock.

The FRCC recommends that in other areas, catches should not exceed those required for the normal conduct of fisheries directed toward other species.

The FRCC recommends that the by-catch of cod in the yellowtail mobile gear fishery be monitored, and should such by-catches be problematic, consideration be given to increasing the mesh size.

The FRCC recommends that 100% dockside monitoring be applied to the Magdalen Islands yellowtail flounder fishery.

Figures are in 000t

Year	1986	1988	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000/01	2001/02*
TAC											0.43	0.43	0.8	0.3	0.3	0.3	0.3
Catch					0	0	0	0.12	0.12	0.08	0.2	0.21	0.8	0.19	0.34	0.31	0.26

*Catch as of March 27/2002

1. Figures are from the Integrated Fisheries Management Plan Atlantic Groundfish

Council's View of Stock Status

Overall indicator:	4T general – abundance is stable. Magdalen Islands inshore abundance is declining.
	Compared to average
Overall biomass:	Similar to overall abundance.
Growth and condition:	4T generally shows that the percentage of small yellowtail (<25cm) increased from 14 in 1971 to 54 in 2001; however, the percentage of small fish has decreased slightly in 2000 and 2001.
Age Structure:	Modal age is 4 years old in the 2001 Magdalen Islands inshore survey. Males in this survey are 1 to 7 years old. Females are 2 to 8 year old.
Distribution:	Found in southern Gulf and commercial landings are mainly from around the Magdalen Islands.
Recent exploitation rate:	Between 1995 and 2001, in the sentinel fishery, catch rates for seiners was negative, however, for the trawlers it was positive. 2001-relative fishing mortality was 0.11 at 26cm.

Sources

DFO Science

SSR A3-16 (2002) Yellowtail Flounder in the Southern Gulf of St. Lawrence.

FRCC Consultations

The FRCC held consultations on this stock in 2002 in:

Port Saunders, NF (March 18)
Port aux Basques, NF (March 19)
Gaspé, QC (March 20)
Moncton, NB (March 21)
Port Hawkesbury, NS (March 22)

Written Briefs

No written briefs were received.

Appendix: FRCC Mandate and Membership

FRCC Terms of Reference

1. Introduction

The Government of Canada is committed to a more comprehensive approach to the conservation and management of our fisheries resource. This approach demands a better understanding of complex fisheries ecosystems - the interaction of fish with other species, predator-prey relationships, and also changes in the marine environment like ocean currents, water temperatures and salinity.

The Government of Canada is also committed to a more effective role in decision-making for those with practical experience and knowledge in the fishery.

The Minister of Fisheries and Oceans has established the Fisheries Resource Conservation Council (FRCC) as a partnership between government, the scientific community and the direct stakeholders in the fishery. Its mission is to contribute to the management of the Atlantic fisheries on a 'sustainable' basis by ensuring that stock assessments are conducted in a multi-disciplined and integrated fashion and that appropriate methodologies and approaches are employed; by reviewing these assessments together with other relevant information and recommending to the Minister total allowable catches (TACs) and other conservation measures, including some idea of the level of risk and uncertainty associated with these recommendations; and by advising on the appropriate priorities for science.

2. Definition of Conservation

Fisheries conservation is that aspect of the management of the fisheries resource which ensures that its use is sustainable and which safeguards its ecological processes and genetic diversity for the maintenance of the resource. Fisheries conservation ensures that the fullest sustainable advantage is derived from the resource and that the resource base is maintained.

3. Council Objectives

3.1 To help the government achieve its conservation, economic and social objectives for the fishery.The conservation objectives include, but are not restricted to:

3.1.1 rebuilding stocks to their 'optimum' levels and thereafter maintaining them at or near these levels, subject to natural fluctuations, and with 'sufficient' spawning biomass to allow a continuing strong production of young fish; and,

3.1.2 managing the pattern of fishing over the sizes and ages present in fish stocks and catching fish of optimal size.

3.2 To develop a more profound understanding of fish-producing ecosystems including the inter-relationships between species and the effects of changes in the marine environment on stocks.

3.3 To review scientific research, resource assessments and conservation proposals, including, where appropriate, through a process of public hearings.

3.4 To ensure that the operational and economic realities of the fishery, in addition to scientific stock assessments, are taken into account in recommending measures to achieve the conservation objectives.

3.5 To better integrate scientific expertise with the knowledge and experience of all sectors of the industry and thus develop a strong working partnership.

3.6 To provide a mechanism for public and industry advice and review of stock assessment information.

3.7 To make public recommendations to the Minister.

4. Mandate and Scope

4.1 The Fisheries Resource Conservation Council will address these objectives by bringing together industry, DFO science and fisheries management, and external scientific and economic expertise in one body.

4.2 The Council will:

4.2.1 advise the Minister on research and assessment priorities;

4.2.2 review DFO data and advise on methodologies;

4.2.3 consider conservation measures that may be required to protect fish stocks;

4.2.4 review stock assessment information and conservation proposals, including through public hearings, where appropriate; and,

4.2.5 make written public recommendations to the Minister on TACs and other conservation measures.

4.3 The Council may recommend any measures considered necessary and appropriate for conservation purposes such as TACs, closure of areas to fishing during specific periods, approaches to avoid catching sub-optimal sized fish or unwanted species, and restrictions on the characteristics or use of fishing gears.

4.4 The Council's scope includes Canadian fish stocks of the Atlantic and Eastern Arctic Oceans. In the first instance, the Council will address groundfish, and then subsequently take on responsibility for pelagic and shellfish species.

4.5 The Council may also advise the Minister on the position to be taken by Canada with respect to straddling and transboundary stocks under the jurisdiction of international bodies such as the Northwest Atlantic Fisheries Organization (NAFO).

5. Size, Structure and Make-Up

5.1 The Council will consist of not more than 14 members with an appropriate balance between 'science' and 'industry'.

5.2 Members are chosen on merit and standing in the community, and not as representatives of organizations, areas or interests.

5.3 'Science' members, are drawn from government departments, universities or international posts, and are of an appropriate mix of disciplines, including fisheries management and economics.

5.4 'Industry' members are knowledgeable of fishing and the fishing industry and understand the operational and economic impacts of conservation decisions.

5.5 All members of the Council are appointed by the Minister.

5.6 All members, including the Chairperson, are appointed for a three year term; terms can be renewed.

5.7 Members appointed from DFO serve 'ex officio'.

5.8 Members have to disclose any interest in the Atlantic or Eastern Arctic fishery and take appropriate measures so as to avoid potential or real conflict of interest situations during the term of appointment.

5.9 The four Atlantic Provinces, Quebec and Nunavut may each nominate one delegate to the Council. These delegates have access to the Council's information, and may participate fully in meetings, but will not be asked to officially endorse the formal recommendations to the Minister.

5.10 The Council is supported by a small Secretariat, to be located in Ottawa. The Secretariat will:

5.10.1 provide administrative support for the functioning of the Council;

5.10.2 provide a technical science and fisheries management support;

5.10.3 organize Council meetings;

5.10.4 record decisions of the Council;

5.10.5 undertake a professional communications function for the Council, providing a central point for communications to and from the Council; and

5.10.6 undertake such other matters as from time to time might be appropriate.

5.11 The Chairman may appoint an Executive Committee, consisting of the Chairman, Vice-Chairman, and three other Members.

5.12 In addition, the Chairman may, from time to time, strike an 'ad hoc' committee to deal with a specific issue.

6. ACTIVITIES:

6.1 Reviews appropriate DFO science research programs and recommends priorities, objectives and resource requirements.

6.2 Considers scientific information - including biology, and physical and chemical oceanography, taking into account fisheries management, fishing practices, economics and enforcement information.

6.3 Conducts public hearings wherein scientific information is presented and/or proposed conservation measures/options are reviewed and discussed.

6.4 Recommends TACs and other conservation measures.

6.5 Prepares a comprehensive, long-term plan and a work plan for the Council which are reviewed annually at a workshop with international scientists and appropriate industry representatives.

6.6 Ensures an open and effective exchange of information with the fishing industry and contributes to a better public understanding of the conservation and management of Canada's fisheries resource.

FRCC MEMBERSHIP:

MEMBERS:

Fred Woodman, Chairman
Jean Guy d'Entremont, Vice-Chair
Maurice Beaudin
Bill Broderick
Bruce Chapman
Nick Henneberry
Douglas Johnston
Dan Lane
Jean-Jacques Maguire
Paul Nadeau
John Pope
George Rose
Karl Sullivan

PROVINCIAL DELEGATES:

Carey Bonnell, Nunavut
Mario Gaudet, New Brunswick
David MacEwen, Prince Edward Island
Dario Lemelin, Québec
Tom Dooley, Newfoundland and Labrador
Clary Reardon, Nova Scotia

EX OFFICIO:

Gilles Belzile
Barry Rashotte
David Gillis

SECRETARIAT:

Michel G. Vermette, Executive Director
Tracey Sheehan
Helena DaCosta
Debra Côté

200 Mile Fishing Zone and NAFO Fishing Boundaries